General comment to Executive editor: We greatly appreciate your time in checking of our paper to follow GMD journal requirements. The original comments of the reviewer are highlighted in red and our responses are in black. When text is copied directly from the revised paper the words are italicized.

Comment: Please note that for your paper, the following requirements have not been met in the Discussions paper:

"– The paper must be accompanied by the code, or means of accessing the code, for the purpose of peer-review. If the code is normally distributed in a way which could compromise the anonymity of the referees, then the code must be made available to the editor. The referee/editor is not required to review the code in any way, but they may do so if they so wish."

"– All papers must include a section at the end of the paper entitled "Code availability". In this section, instructions for obtaining the code (e.g. from a supplement, or from a website) should be included; alternatively, contact information should be given where the code can be obtained on request, or the reasons why the code is not available should be clearly stated."

"– All papers must include a model name and version number (or other unique identifier) in the title. " Please name LUNA v1.0 in the title and add a code availability section at the end (before the appendices) of the article upon your revised submission to GMD.

RESPONSE: We have now moved the "code availability" section before the "Appendix A" section. LUNA v1.0 is now incorporated in the title. The code availability section is modified in the revised manuscript as follows:

Code availability

This LUNA model has been implemented into CLM5.0 which will be openly available after

its release in early 2016. Meanwhile, we have codes available in the form of MATLAB,

FORTRAN and C#. They can be obtained upon request by sending an email to cxu@lanl.gov.